UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
1595 Wynkoop Street
Denver, CO 80202-1129
Phone 800-227-8917
http://www.epa.gov/region08

NOV 07 2013

Ref: 8EPR-N

Mr. Thomas Bills
Buffalo RMP Team Leader
BLM Buffalo Field Office
1425 Fort Street
Buffalo, WY 82834

Re: Draft Resource Management Plan and Environmental Impact Statement for the Buffalo Field Office Planning Area CEQ #20130179

Dear Mr. Bills:

In accordance with our responsibilities under Section 102(2)(C) of the National Environmental Policy Act (NEPA), 42 U.S.C. Section 4332(2)(C), and Section 309 of the Clean Air Act, 42 U.S.C. Section 7609, the U.S. Environmental Protection Agency Region 8 (EPA) has reviewed the Bureau of Land Management's (BLM) Draft Resource Management Plan and Environmental Impact Statement for the Buffalo Field Office Planning Area (Draft RMP/EIS) as prepared by the Buffalo Field Office (BFO). We provided our comments on water resources monitoring and air resources by letter dated September 30, 2013. The BLM provided the EPA with an additional 45 days to submit our remaining comments regarding surface water resources, groundwater and drinking water resources, and riparian/wetland areas.

We appreciated the opportunity to provide input to BLM early in the process (April 2011) and to meet to discuss our concerns (June 2011). Based on those prior comments and discussions, we assumed the Draft RMP/EIS would address our concerns related to water resource issues. However, our review of the current draft has identified significant deficiencies related to the comments and concerns we conveyed to you in 2011. The Draft RMP/EIS does not provide the scope or detail of analysis necessary to fully inform decision makers and the public regarding surface water resources, groundwater and drinking water resources, and riparian/wetland areas. Consequently, we recommend that additional information and analysis be provided on these topics. We appreciated the opportunity to meet with BLM State Office and Buffalo Field Office representatives on October 23 in Cheyenne to discuss our water resource concerns and work toward resolving those concerns. This letter reflects our understanding from the October 23 discussions of BLM's plans to address several of these concerns.

The EPA is committed to the responsible development of energy resources that protects communities, public health, environmental resources, and other important stakeholders, such as agricultural interests. The NEPA process for RMPs affords the BLM a unique opportunity to evaluate current conditions in the planning area and the cumulative impacts of past and future management actions, including energy development, that could span several decades and identify measures to ensure protection of public health and the environment. We are concerned that the Draft RMP/EIS does not consider changes in the

planning area that have occurred since the 2003 ROD and RMP Amendment for the Powder River Basin (PRB) Oil and Gas Project within the BFO and substantial relevant information that is now available. This includes changes in methods for coal bed natural gas (CBNG) and conventional oil and gas drilling, completion and production, and changes to the conditions of surface water and groundwater in the planning area. We believe that consideration of the changed conditions and information could substantially alter the analysis of the direct, indirect and cumulative impacts of actions in the planning area and may warrant changes in management actions, and consideration of additional alternatives to protect water resources. Without this information, the Draft RMP/EIS does not provide adequate guidance for future management actions in the planning area.

The EPA's Comments and Recommendations

(1) Surface Water Resources

The Surface Water Resources section of the Draft RMP/EIS does not include important information necessary to characterize the current level of water quality impairment, analyze the impacts of the proposed action, and support decisions regarding mitigation of impacts. Updated information regarding the existing conditions and potential impacts from RMP activities has been collected by the BLM, the Wyoming Department of Environmental Quality (WDEQ), and the U.S. Geological Survey (USGS) over the last 10 years. Wyoming's most recent Water Quality Assessment and Impaired Waters List (2012 Integrated Clean Water Act §§ 305(b) and 303(d) Report) (Wyoming's Integrated Report)) indicates there are dozens of impaired waters in the planning area, that additional water bodies have become impaired since oil and gas development commenced, and identifies oil and gas development as a source of impairment for some of these water bodies. Given this information, it is important that the Draft RMP/EIS clearly describe the proposed methods for continued development of conventional and unconventional oil and gas resources, fully analyze the impacts to water quality that may result from those methods, particularly to waters already failing to support their designated uses, and identify mitigation measures that can be implemented to avoid further exceedances of water quality criteria.

Incomplete Disclosure of Potential Surface Water Impacts

We recommend that the EIS describe the current water quality conditions, if available, for each surface water body in the planning area, including perennial, intermittent and ephemeral streams, rivers, lakes, reservoirs; and surface water drinking water sources, and discuss relevant surface water information from the latest version of Wyoming's Integrated Report. For example, we recommend that the EIS discuss that the 2012 Wyoming Integrated Report identifies two segments of the Powder River totaling approximately 120 miles long and a segment of Salt Creek approximately 45 miles long running through the planning area as impaired due to petroleum production sources. During our October 23 discussions, the BLM agreed to include this information in the Final RMP/EIS. We recommend that the BLM use this information as a baseline for an analysis of surface water impacts from future activities and that more recent information, including data from the BLM's post-2003 water quality monitoring activities, be used in the analysis of potential direct, indirect and cumulative impacts. Since the anticipated effectiveness of mitigation that will be required for oil and gas operations is an important consideration in this analysis, we also recommend that design and mitigation measures assumed in the analysis be clearly identified in the EIS. Information regarding the sources and causes of impaired waters is typically included in BLM RMP/EISs (e.g. the Draft RMP Amendment and EIS for Oil and Gas

Development for the White River, CO Field Office and the Proposed RMP and Final EIS for the Lander, Wyoming Field Office Planning Area). We also note that the White River Draft RMP identifies impaired waters as fragile watersheds and considers them high priority stream segments where the BLM could implement additional protective measures.

The Draft RMP/EIS does not discuss surface water impacts from the discharge of groundwater during CBNG operations. Sodium (which is often described in terms of a sodium adsorption ratio or SAR) and salinity in groundwater discharged to surface water during CBNG operations can affect water resources and render them unsuitable for agricultural use. Because watersheds in the planning area drain to the Powder, Tongue, and Belle Fourche rivers, there is a potential for impacts in the neighboring states of Montana and South Dakota. As stated in our letter dated April 11, 2011, and during our June 7, 2011 meeting, we discussed that recent data and information is available regarding this concern from efforts undertaken by the BLM, WDEQ, other states, and the USGS; but this information is not included in the Draft RMP/EIS. For example, the web site for the BLM's Powder River Basin Interagency Workgroup web page at http://www.wy.blm.gov/prbgroup/docs/aquatics/index.htm and a web site for the Montana Department of Environmental Quality at http://www.deq.mt.gov/coalbedmethane/cbm_water_quality.mcpx lists several documents that include relevant information. We continue to recommend that the EIS include an analysis of current and potential future SAR impacts, including long-term buildup of sediments, to surface water in the planning area and downstream in Montana and South Dakota, using updated information. During our October 23 discussions, the BLM agreed to incorporate an updated analysis in the Final RMP/EIS.

Also, because future activities that may be authorized under this RMP, including oil and gas development, livestock grazing and mining would result in new surface disturbance that may contribute to erosion, it is important that the EIS include additional information about this concern. Depending on a host of variables, including soil characteristics, industrial operations and topography, associated runoff could introduce sediments as well as salts, selenium, heavy metals and other pollutants into surface waters. While the Draft RMP/EIS includes helpful information regarding short-term and long-term disturbances, to fully disclose the potential impacts of soil disturbance, we recommend that the EIS translate this information into estimated sediment loads for each alternative. As we discussed on October 23, the Wyoming BLM's Bighorn Basin Draft RMP/EIS estimated erosion rates based on projected amount of surface disturbance, types of surface disturbance and general characteristics of the basin (erodible soils, slopes, etc.). Erosion rates were calculated using the Water Erosion Prediction Project model (WEPP), a web-based interface developed by the U.S. Department of Agriculture, Agricultural Research Service, which can be accessed at http://ars.usda.gov/Research/docs.htm?docid=10621.

Lack of Mitigation Measures to Protect Surface Water

The Draft RMP/EIS does not identify any specific mitigation measures for produced water discharges to prevent adverse impacts to surface water, including impaired waterbodies. Oil and gas produced water discharges provide opportunities for the introduction of contamination, including petroleum compounds, arsenic, chloride, selenium, sodium and sediment, into surface waters. According to the Draft RMP/EIS, the trigger for determining management action is, "water quality does not meet state standards" (p. 1580). Water quality standards have already been exceeded in many portions of the planning area, yet the Draft RMP/EIS does not identify mitigation or management actions to prevent adverse impacts to water quality. We recommend the BLM adopt triggers that will prevent adverse impacts and help restore

water quality, rather than planning to take action after standards are exceeded. During our October 23 discussions, the BLM agreed to incorporate into the RMP/EIS a water resource management plan that will include triggers for additional management actions and design features, BMPs and mitigation measures that can be applied as Conditional of Approval (COAs) to Applications for Permits to Drill (APDs) to reduce impacts to surface waters.

Surface discharge of produced water from CBNG and conventional oil and gas wells has the potential to result in adverse effects to surface water, including erosion, changes in stream morphology and increased loadings of sediment, chloride, selenium, and arsenic. We support including a water management plan in the EIS that includes a list of potential design features, BMPs and mitigation measures that could be applied at the project level as COAs to APDs to prevent these impacts of produced water discharge. *The Reasonable Foreseeable Development Scenario for Oil and Gas Buffalo Field Office Planning Area, Wyoming, 2012* (2012 RFD) discussed a new freeze-thaw/evaporation process that has been shown to be useful for treating produced water. The 2012 RFD also discusses a downhole water separation process that has reduced water volumes in wells by as much as 97 percent. The 2003 EIS for the PRB project also evaluated reverse osmosis treatment. We recommend the BLM consider including these impact prevention and treatment options in the list of potential mitigation measures that could be applied at the project level.

The BLM's Preferred Alternative includes a management action that would allow "on-channel reservoirs effecting natural stream flow regimes in consideration of other resource values" and "activities associated with the surface discharge of water produced during federal actions if erosive conditions, channel stability, soil characteristics and other resource values warrant." We recommend that the EIS clarify what is meant by activities associated with the surface discharge of water produced during federal actions. We interpret "during federal actions" to include development of federal minerals including those that would affect both private and federal surface estate. We recommend that the BLM restrict all activity within 500 feet of surface water features to the extent possible. During our October 23 discussions, the BLM indicated that it will perform additional NEPA analysis in order to evaluate the impact of any proposed on-channel reservoirs or activities associated with surface discharge of produced water within 500 feet of surface waters. We recommend the EIS discuss this planned NEPA activity. This additional analysis will assist future decision-makers in determining whether on-channel reservoirs should be used and identify any mitigation requirements necessary to protect surface water resources. As we discussed, we also recommend the EIS discuss the various state and federal authorities related to the permitting, approval and operation of on-channel reservoirs.

For activities other than on-channel reservoirs and activities associated with surface discharge of produced water, we recommend the BLM require a 500-foot No Surface Occupancy (NSO) buffer for surface water features including springs, riparian areas, wetlands, 100 year floodplains and intermittent and ephemeral water bodies. Oil and gas activities (e.g., construction, spills/leaks and transport) and facilities (e.g., tanks, pits, ponds, and equipment) provide opportunities for the introduction of contamination into surface waters. If surface activities are set back from the immediate vicinity of surface water features, this provides an opportunity for accidental releases to be detected and remediated before impacts reach water resources. If accidental releases are not detected, the setback provides a safety factor and some possibility of natural attenuation occurring. Setbacks also help prevent nonpoint source pollutants such as sediment and dissolved contaminants such as chloride, arsenic and selenium from impacting surface waters. Other BLM Field Offices have required a 500-foot setback to minimize

potential deterioration of water quality and to maintain natural hydrologic function of stream channels, stream banks, floodplains, and riparian communities (e.g., see Grand Junction Field Office Draft RMP/EIS, NSO-1, Major River Corridors; NSO-2, Streams/Springs). Further, we recommend a 750-foot NSO buffer for water bodies that are impaired or become impaired in the future. This additional setback will minimize additional degradation of impaired waters in the planning area.

If BLM does not require an NSO set back as described above, we recommend the following additions/changes be made to the Buffalo Water-1014 Controlled Surface Use (CSU) stipulation (p. 1698): (Our recommended additions are underlined and recommended deletions are struck through).

A CSU stipulation will be applied to all oil and gas leases and land use authorizations to avoid the following areas: ~~Surface disturbance is restricted~~ within 500 feet of springs, non-Coalbed Natural Gas (CBNG) reservoirs and natural lakes, water wells, intermittent, ephemeral and perennial streams, wetland and riparian areas, and 100-year floodplains. With existing leases or renewed authorizations, COAs would be applied to approvals to protect all surface water resources in these areas.

CSU (1): ~~(a) CSU (1):~~
(a) Prior to surface disturbance, within 500 feet of springs, non-CBNG reservoirs and natural lakes, water wells, intermittent, ephemeral and perennial streams, wetland and riparian areas, and 100-year floodplains, a site-specific professionally engineered construction, stabilization, maintenance and reclamation plan (Plan) must be submitted to the BLM by the applicant as a component of the APD (BLM Form 3160-3) or Sundry Notice (BLM Form 3160-5) – Surface Use Plan of Operations. The operator shall not initiate surface-disturbing activities unless the BLM authorized officer has approved the Plan (with conditions, as appropriate).
(b) The Plan must demonstrate to the BLM authorized officer's satisfaction how the operator will meet the following performance standards:

- storm water and surface runoff will be controlled to ~~minimize~~ prevent erosion (rilling, gullying, piping, mass wasting) and offsite siltation during construction, use/operations, and reclamation.
- offsite areas will be protected from accelerated soil erosion.
- the original landform and site productivity will be partially restored during interim reclamation and fully restored as a result of final reclamation.
- The BLM authorized officer has determined that the nature of the proposed Plan is conditioned so as not to negatively impact any water resources identified and verified in the field.

CSU (2) as mapped by the USGS National Hydrologic Inventory and/or as determined by a BLM evaluation of the area.

For the purpose of:
CSU (3) ensuring protection of surface waters and associated riparian habitats by meeting the standards outlined in, Chapter 6 of the BLM's Oil and Gas Gold Book, as revised, and the 2014 BFO RMP ROD.

Exception: The BLM authorized officer may grant an exception if it is determined that the action will not result in a failure to meet the performance standards above.

Modification: The BLM authorized officer may modify the area subject to the stipulation based upon review and approval from a qualified hydrologist or engineer, as well as utilizing USGS National Hydrologic Inventory and/or BLM evaluation. The stipulation and performance standards identified above maybe modified based on:

- monitoring results from similar actions on similar sites or revisions to national or state performance standards; and
- areas proposed for occupancy after construction would: 1) pass the 10-year peak flow event without erosion, 2) pass the 25-year peak flow event without failed infrastructure, 3) pass the 50-year peak flow event without failure, 4) not impede 100-year peak flow events, 5) not negatively impact any surface water or groundwater features.

Waiver: The BLM authorized officer determines that the entire lease area is not within 500 feet of springs, non-CBNG reservoirs and natural lakes, water wells, intermittent, ephemeral and perennial streams, wetland and riparian areas, and 100-year floodplains. This determination shall be based upon USGS National Hydrologic Inventory ~~and/or~~ as well as BLM authorized officer field verification ~~BLM evaluation~~.

(2) Groundwater and Drinking Water Resources

Incomplete Disclosure of Potential Groundwater and Drinking Water Impacts

The Draft RMP/EIS describes in general terms that some potential groundwater and drinking water impacts could occur, including the depletion of aquifers, impacts to springs, and potential for contamination from impoundments, but it does not include an analysis of potential direct, indirect and cumulative impacts to groundwater and drinking water resources from the activities that are anticipated by the 2012 RFD. Existing and proposed CBNG wells completed in and producing from the Fort Union formation are in close lateral and vertical proximity to many existing domestic and municipal water supply wells completed in the same formation. The Draft RMP/EIS does not describe the practices anticipated for drilling and completion of new wells or the potential for redrilling, stimulation or other new actions to enhance production from existing wells. During our October 23 discussions, the BLM stated that these practices would be described in the Final RMP/EIS. Further, as we stated in our letter dated April 11, 2011, and during our June 7, 2011 meeting, we recommend that the BLM include in the EIS an analysis of the potential direct, indirect and cumulative impacts of these practices. Such an analysis is needed to determine the significance of impacts to critical resources such as Underground Sources of Drinking Water (USDWs)[1], and to inform the need for mitigation measures to minimize or prevent impacts.

Additionally, the characterization of potential groundwater impacts in the Draft RMP/EIS includes a statement regarding the "typical" relationship between oil and natural gas resources and current and potential future drinking water resources that does not appear to accurately describe oil and gas

[1] Federal Safe Drinking Water Act regulations define a USDW as an aquifer or portion thereof: (a)(1) which supplies any public water system; or (2) which contains a sufficient quantity of ground water to supply a public water system; and (i) currently supplies drinking water for human consumption; or (ii) contains fewer than 10,000 mg/l total dissolved solids; and (b) which is not an exempted aquifer (See 40 CFR Section 144.3)

production in the planning area. Specifically, the Draft RMP/EIS states that oil and gas resources are typically located at far greater depths than drinking water resources, yet in this planning area, the most widespread fluid mineral development, CBNG, is happening in some areas at the same depths being used for current water supply. The Wasatch and Fort Union formations are producing zones for CBNG, and they also supply 6,583 domestic and 135 municipal water wells. We are concerned that the continued extraction of CBNG from formations that are USDWs in current use and the associated drawdown of groundwater could result in a significant reduction of water quantity and impacts to water quality. In addition to CBNG, there are 3,648 new conventional oil and gas wells projected in the planning area and the Draft RMP/EIS does not explain how many of those wells will be located in or in close proximity to formations that are current or potential future sources of drinking water.

The existing and potential future groundwater use coupled with the extensive existing (approximately 26,000 CBNG and 4,100 conventional oil and gas wells) and planned fluid mineral development (approximately 7,800 CBNG and 3,600 conventional oil and gas wells) in the planning area make it important to characterize the groundwater resources within the planning area and analyze the relationship between groundwater resources and CBNG and conventional oil and gas resources and activities. For this reason, we recommend including the following information in the EIS:

- A description including the horizontal and vertical extent (including maps if available) of all aquifers in the study area, noting which aquifers or portions of aquifers are USDWs;
- Maps depicting the location of sensitive groundwater resources such as: municipal watersheds, source water protection zones, sensitive aquifers, and recharge areas;
- A description of the process the BLM will use to ensure that the above-listed sensitive areas are protected;
- A description of any existing information regarding groundwater contamination locations and the cause of any contamination;
- Data on the amount of annual use of groundwater in each of the major aquifers; and
- A description and maps indicating the horizontal and vertical spatial relationship between CBNG and conventional oil and gas resources and USDWs.

The Draft RMP/EIS does not consider new information that has been developed since the 2003 PRB RMP Amendment and ROD that would assist in analyzing the existing conditions of and potential for impacts to groundwater in the project area. During our October 23 meeting, BLM indicated it has collected groundwater level data since 2003. Other organizations such as WDEQ and USGS may also have groundwater quantity and quality data that is available. We recommend the BLM analyze these sampling and monitoring data in the EIS. During our October 23 discussions, BLM stated that the Final RMP/EIS would include this information.

The Draft RMP/EIS does not analyze the potential direct, indirect and cumulative impacts to groundwater resources associated with the extensive number of existing boreholes and wells in the planning area. We are concerned that the design, construction and integrity of these boreholes and wells may create conditions that could provide migration pathways for oil, gas, or other fluids to migrate from the production zone(s) to usable groundwater. In addition, the 2003 PRB RMP Amendment and ROD describe under-reaming as the primary completion method for CBNG wells. During our October 23 discussions, the BLM stated that under-reaming is no longer a common completion method; it would be

helpful to disclose in this EIS. New CBNG well stimulation methods were not anticipated and the impacts of such methods were not analyzed in the 2003 PRB RMP Amendment, EIS or ROD. We recommend that the EIS disclose all methods that may be used to enhance production of these existing CBNG wells, including the potential for redrilling, well stimulation and other production enhancement techniques. Other BLM RMPs include this type of information on operational practices that is helpful for understanding potential impacts (e.g., the Draft RMP Amendment and EIS for Oil and Gas Development for the White River, CO Field Office). We also recommend that the EIS analyze the potential impacts of these techniques to groundwater within and above the Fort Union formation.

In addition, as we recommended in our previous comments, the EPA recommends that the EIS analyze potential impacts to groundwater within and above the Fort Union formation or other USDWs from completing and stimulating new CBNG wells. We recommend that the EIS describe how new CBNG wells will be constructed, including providing a generalized well schematic that depicts location of casing and cement in relation to important hydrogeologic features such as confining zones and USDWs. During our October 23 discussions, the BLM stated that the Final RMP/EIS would include this information.

For existing conventional oil and gas wells (both active and dormant), the EPA recommends that the analysis in the EIS consider the locations and the generalized design of existing wellbores, including the depths of surface casing and the location of cemented and uncemented zones in relation to USDWs. If existing wellbores are not fully cemented through USDWs, we recommend the EIS analyze the potential for movement of gas or fluids up these wellbores into usable groundwater.

Considering the extensive existing development and existing conditions of boreholes and wells in the project area, we recommend that the EIS describe methods to prevent migration of oil and gas from production zones to usable groundwater sources, whether operators are implementing these methods, and what authorities BLM has to ensure these resources are protected. Please address the following practices:

- Follow all current state or federal standards applicable to new well construction and well abandonment when operators are recompleting existing wells;
- Testing and monitoring of existing wells to ensure adequate construction prior to stimulation activities;
- Reducing the potential for inactive wells to serve as conduits for fluid movement between production zone(s) and aquifer(s), in particular where existing wells do not have surface casing set into the base of USDWs and lack sufficient production casing cement. This could include monitoring of bradenhead pressure in wells surrounding a well undergoing stimulation where feasible. Elevated bradenhead pressure in offset wells may be an indicator of communication between zones; and
- Other practices that would be triggered when operational characteristics, such as elevated bradenhead pressure or fluid at the surface, indicate that USDW isolation may have been compromised.

Lack of Mitigation Measures to Protect Groundwater

The Draft RMP/EIS does not identify mitigation measures that could be employed to protect groundwater resources. CBNG and conventional oil and gas activities including construction, drilling, well stimulation, pipelines, produced fluid storage and transport provide opportunities for the introduction of contamination into the groundwater including petroleum compounds (e.g., benzene, toluene, xylene, etc.). We recommend that the EIS identify mitigation and protection measures to address potential impacts to groundwater, and suggest that BLM consider the following:

- Best management practices and other mitigation measures for oil and gas activities such as closed loop drilling, monitoring of water quality and water levels, closure and monitoring of reserve pits, and lining and monitoring of evaporation ponds. Based on our recent discussions, the BLM has agreed to include a list of BMPs and mitigation options in the Final RMP/EIS;
- Setback stipulations, such as NSO for oil and gas activities, to minimize the potential for impacts to current and potential drinking water resources, including domestic water wells and public water supply wells. BLM's Lease Notice #1 notifies operators that they may not be able to site operations within ¼ mile of occupied dwellings or within 500 feet of surface water, which BLM indicated in our discussion includes groundwater wells. We recommend that this lease notice be referenced in the Final RMP/EIS and that the BLM ensure setbacks are required. The EPA recommends a minimum 500-foot NSO setback for private wells. For public water supply wells, the EPA recommends that Zones 1 and 2 identified in existing sourcewater assessments conducted by the WDEQ (as described at: http://deq.state.wy.us/wqd/www/SWP%20WHP/Documents/02560-doc.pdf) be protected with an NSO setback. Where sourcewater assessments are not available for public water supply wells, the EPA recommends a half-mile NSO setback from the well. Setbacks provide an opportunity for released contaminants to attenuate before reaching a water supply well. The NSO setbacks provide a buffer for water supply wells from both surface and subsurface sources of contamination. Setbacks may also afford an opportunity for a release to be remediated before it can impact a well, or for an alternate water supply to be secured. Other BLM Field Offices have proposed a half-mile NSO setback from public water supply wells (e.g. the Draft RMP Amendment and EIS for Oil and Gas Development for the White River, CO Field Office , NSO-57) or NSO for Municipal Watersheds (e.g. the Grand Junction Field Office Draft Resource Management Plan and EIS, NSO-5); and
- A requirement for remediating future unanticipated impacts to groundwater wells from RMP activities, such as requiring the operator to remedy those impacts through treatment, replacement, or other appropriate means. During our discussions, the BLM stated that this has been required in other areas of Wyoming.

(3) Riparian/Wetland Areas

Incomplete Disclosure of Riparian/Wetland Characteristics and Potential Impacts

The Draft RMP/EIS indicates that a baseline inventory is needed to determine current riparian/wetland health and to develop management plans and that the most recent assessment is 20 years old (p. 864). It does not include an analysis of wetlands or riparian areas and concludes that oil and gas development, coal mining, in situ uranium mining and sand and gravel mining would have "major adverse effects" on

riparian and wetland systems (pp. 895 to 896). We recommend the EIS include an impact analysis to support this conclusion. We also recommend that the EIS reference maps and inventories that will be used to identify riparian areas and wetlands. To facilitate protection of wetlands, springs and perennial seeps, we recommend delineation and marking of these resources on maps and on the ground before development.

Lack of Mitigation Measures to Protect Riparian/Wetland Areas

The Draft RMP/EIS does not include mitigation measures to protect riparian areas and wetlands from projected "major adverse effects." We recommend that the EIS address compliance with Executive Order 11990 (Protection of Wetlands), including the requirement to ensure mitigation of unavoidable impacts to all wetlands and waters of the U.S. We encourage the BLM to identify mitigation that will ensure riparian and wetland areas are protected and to require best management practices such as silt fences, detention ponds and other stormwater control measures to protect wetlands, riparian areas springs and perennial seeps. As discussed in our comments on mitigation measures for surface water, we recommend that the BLM require a 500-foot NSO buffer to protect wetlands and riparian areas.

(4) Identification of Assumptions in Determining Impacts

As we discussed during our October 23 meeting, the Draft RMP/EIS does not clearly indicate whether the Best Management Practices (BMPs) (Appendix D) and Mitigation Guidelines (Appendix J) were considered as design measures in determining impacts or whether these were considered required actions that would be taken to lessen adverse impacts. Clarifying this information in the EIS would help in interpreting the results of the impact analysis and would better communicate the BLM's intention to require mitigation for those impacts. The BLM agreed to identify both the design measures that were assumed in the impact analysis and the additional mitigation options that could be applied to reduce adverse impacts.

(5) Relationship to PRB EIS

During our October 23 meeting, the BLM stated that the Draft RMP/EIS relied upon the technical analysis included in the 2003 PRB RMP Amendment and ROD and the BLM committed to describing the relationship between these documents in the Final RMP/EIS. We recommend also including updated analyses of data collected since 2003 and activities/practices that were not covered in the 2003 PRB RMP Amendment and ROD. We recommend that the BLM also identify which requirements from the 2003 PRB RMP Amendment and ROD will be continued in the BFO planning area. The requirements that will carry forward are important to consider in analyzing the impacts from energy development in the planning area. Also, identifying the continuing requirements from the 2003 PRB RMP Amendment and ROD in the Final RMP/EIS will help ensure that they are applied to new development in the planning area.

Conclusion

While we appreciate BLM's efforts, we think that the Draft RMP/EIS does not provide the scope or detail of analysis necessary to fully inform decision makers and the public, and we are rating the Draft RMP/EIS as "Inadequate" ("3"). This rating indicates our conclusion that the Draft RMP/EIS does not

adequately assess the potentially significant surface water, groundwater, drinking water, wetlands and riparian area impacts of the Preferred Alternative. We believe that the additional information and improved analyses specified above should be circulated for full public review in a supplemental or revised Draft RMP/EIS. If we are unable to resolve our concerns, this matter could be a candidate for referral to the Council on Environmental Quality. A description of the EPA's rating system is enclosed for your convenience (see Enclosure 1).

The EPA looks forward to continuing to work with the BLM as it revises the Draft RMP/EIS to respond to the comments received. Please feel free to contact me at (303) 312-6308, or Suzanne Bohan, Region 8 NEPA Program Director, at 303-312-6925, if you have any questions or would like to discuss our comments.

Sincerely,

Shaun McGrath
Regional Administrator

Enclosure

ENCLOSURE 1
U.S. Environmental Protection Agency Rating System for Draft Environmental Impact Statements

Definitions and Follow-Up Action*

Environmental Impact of the Action

LO - Lack of Objections: The Environmental Protection Agency (EPA) review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC - Environmental Concerns: The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce these impacts.

EO - Environmental Objections: The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no-action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU - Environmentally Unsatisfactory: The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

Adequacy of the Impact Statement

Category 1 - Adequate: EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis of data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2 - Insufficient Information: The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new, reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses or discussion should be included in the final EIS.

Category 3 - Inadequate: EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the National Environmental Policy Act and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

* From EPA Manual 1640 Policy and Procedures for the Review of Federal Actions Impacting the Environment. February, 1987.